

[illegible]

## 5

A new form of pattern is provided, referred to as a mutual dependence pattern or m-pattern. The m-pattern captures mutual dependence among a set of items. Intuitively, the m-pattern represents a set of items that often occur together. In our experience, such m-patterns often provide great values for certain tasks, such as event correlation in event management. Further, an efficient algorithm is provided for discovering all m-patterns in data for a given minimum mutual dependence threshold. Specifically, a linear algorithm is provided for testing whether a pattern is an m-pattern. Further, a pruning algorithm is provided that prunes the search space effectively. Still further, a level-wise algorithm for mining m-patterns is provided.

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